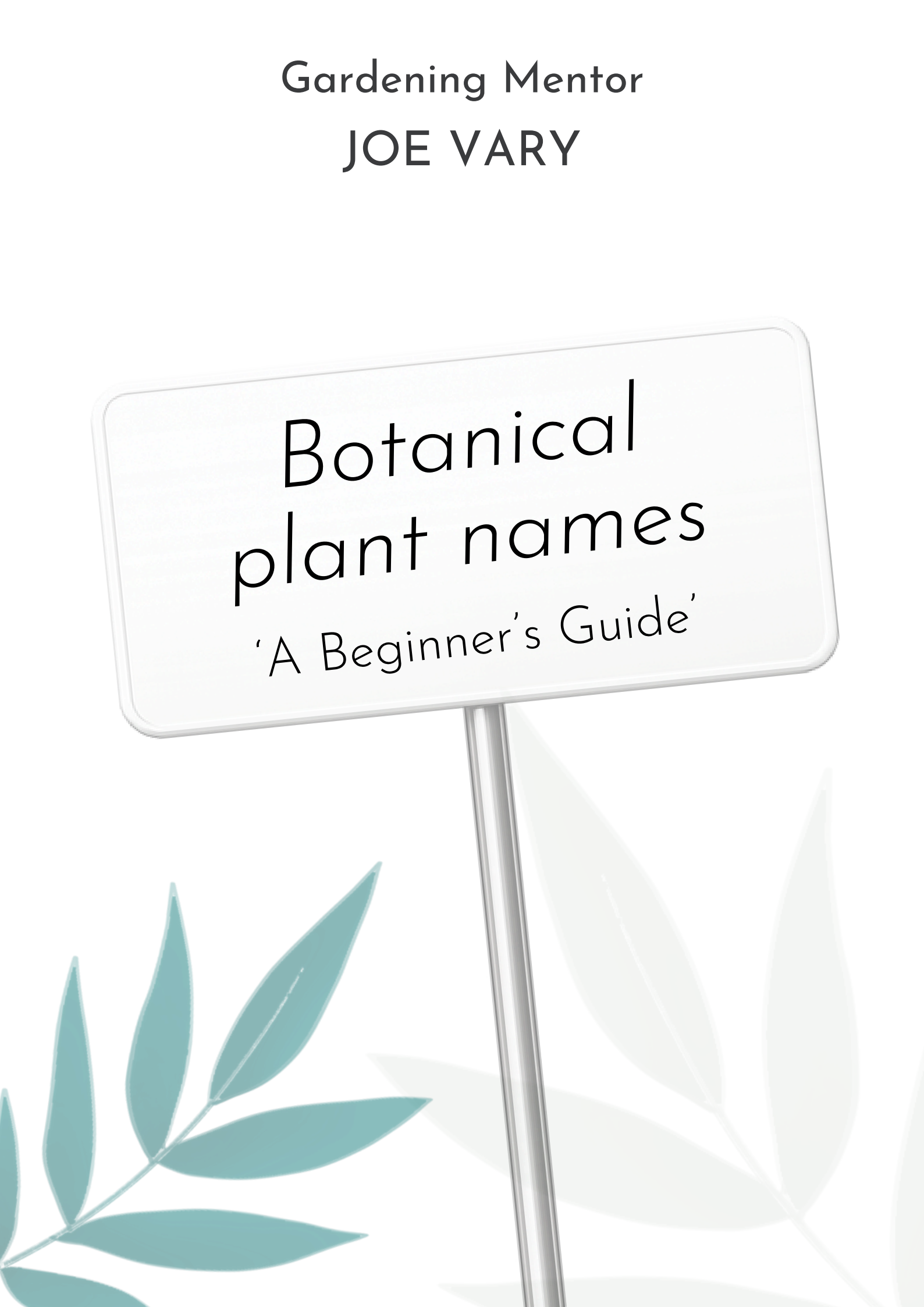
Gardening Mentor
JOE VARY

Botanical plant names

'A Beginner's Guide'



This workbook is your study companion for the video-based course by Joe Vary (aka Gardening Mentor):

Understanding botanical plant names: a beginner's guide

You can find the free course (and lots of other wholesome goodness) on:

restorativegardeners.com

All the key information from the course is included here, with room for your notes and prompts to help your learning **take root**.

Written by Joseph and Amy Vary

restorative gardeners

How to access the free online course

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Learning works best when the information flows **in and out** of our brain.

a two-way street

So you're invited to print this workbook.
Put it in a nice folder.

Use the pages to explore and capture your own reflections, connections, thoughts and questions.

Scribble in it.
Doodle on it.
Make your copy your own.
Keep it.
Look after it.
Return to it in the future.

It also works well on an iPad or tablet with apps like GoodNotes, where you can annotate your digital copy to your heart's content.

If you don't have any of those options, you can use a notebook for exploring your thoughts as you work through the course.

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Tips for navigating this workbook

This workbook has been designed to be as easy as possible to use, whether you've got a printed copy or are viewing the digital version. Check out the tips below on how to get the most from it and easily find your way around.

Digital copy

- Quickly jump to chapters by clicking headings on the contents page.
- Any websites you see written in this book are also links.
- Don't skip the prompts! Just use a notebook instead of writing on the pages.
- You'll notice a little moth on some pages. Tap it whenever you want to be flown back to the Contents page.

Printed copy

- This book is designed for double-sided printing.
- You can print greyscale or low quality to save ink.
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- Scan the QR codes with a camera phone to visit links.

HEY, I'M JOE.

YOUR NEW PLANT GEEK FRIEND.

YOU CAN READ MY STORY **HERE**.

Joe Vary

Gardening Mentor

I'm guessing you're here because we share a love of plants. But does it really matter what names we use for them?

When I began studying horticulture at the age of 17, the first subject I was taught was botanical plant names. Why? Because there's a clear and simple logic to the way plants are named. It helps us to understand plants in terms of groups, and to see how those groups fit together. If you've ever felt unsure or intimidated about using Latin plant names, or felt they're something 'other' or 'better' gardeners use, this guide is for you.

This topic is shrouded in misconceptions and myths. Let's dispel them before we go any further:

- You don't need to be an experienced gardener (or a plant geek like me) to use and understand botanical plant names.
- Botanical names are **for everyone to use and enjoy**, including absolute beginners (and they really are enjoyable once you start understanding what names mean).
- This isn't really about language. It's about **understanding the simple system** used to describe all plants on Earth.
- And this simple, handy system will probably help to organise your knowledge of plants more generally.
- You **don't need to learn Latin** to use botanical names.
- But you will naturally pick up some Latin by learning about botanical plant names (and that's really rewarding). Names that look unfamilar now will soon start to look familiar.
- You **don't need to retain or memorise** a load of names (I regularly look up plant names, it's all part of the fun).
- **Pronunciation really doesn't matter** when it comes to botanical names. So don't be shy at having a try!

Learning this is going to be easier than you might expect.

Chapter 1

A UNIVERSAL LANGUAGE TO DESCRIBE PLANTS

In this chapter, we explore the world of botanical plant names and why they're such an important foundation for gardeners.

While common names can be descriptive and fun, they can also create confusion. The same plant may go by many different names, and the same name may refer to different plants. Botanical names solve this by giving each plant a unique name. This provides a universal language for plants, allowing gardeners everywhere to communicate clearly.

So let's kick off by looking at how the modern two-name (binomial) system came into being, and why Latin is the language used to name plants. And to work these names into your gardening vocabulary, we're going to get you used to confidently saying botanical plant names out loud, in your own accent, without feeling silly.

Why use botanical plant names?

Common names are problematic for gardeners.

- A plant's common name can change depending on where you are in the world and who you're speaking with.
- The same plant can go by many different common names.
- Two unrelated plants can share the same common name.
- Common names can be written in any language.
- Common names can cause confusion.

Botanical names solve these problems.

- They're written in Latin form, a stable language that won't evolve and is internationally neutral.
- Each plant has one unique botanical name, and this name is the same throughout the entire world.
- Though the names may appear unfamiliar at first, all botanical plant names follow the same simple system. This course will help you to learn how to understand and use botanical names confidently.

The two-name system

- All living organisms on Earth - including plants - are named using a system that is recognised around the world.
- This system is called the **binomial system** and was introduced in 1753 by Swedish naturalist Carl Linneaus.
- Every species is given two names: a **genus** and a **species** name.

A few examples of organisms and their binomial names:

Genus	Species	Common name
Homo	*sapiens*	Human
Felis	*catus*	Domestic cat
Fagus	*sylvatica*	Beech tree
Allium	*cepa*	Onion
Lavandula	*angustifolia*	English Lavender

The term '**binomial nomenclature**' is a fancy way of referring to the two-name system used to describe every living organism. It's not the same as the botanical naming system, though. Whilst it's built on the binomial system, botanical naming includes a few extra layers, which we'll cover in this course.

Why Latin?

- Latin has been used to name plants since Roman times.
- It's **neutral** because it doesn't belong to any modern country or culture.
- As a 'dead' language, it's **stable** and won't change over time.
- It can be **widely recognised** by scientists around the world.

How should botanical names be pronounced?

- You **don't need to worry** about how names or syllables are pronounced. We all pronounce Latin plant names **differently** from each other, and that's fine.
- Speak Latin names in a way that **helps you to remember** what the plants are called.
- Just use **your own accent** - there's no need to put on an accent.
- It's **easy when you get used to it**. So keep saying Latin plant names aloud when you see them.

Exercise: say these names aloud

To build confidence with using botanical plant names, it helps to hear them coming out of your own mouth. Practice saying these names out loud:

Plant name	Say it aloud as:
Salvia nemorosa	SAL-vee-ah nem-or-OH-sah
Iris danfordiae	EYE-ris dan-FORD-ee-ay
Hyacinthoides non-scripta	high-uh-sin-THOY-deez non-SKRIP-tuh
Pennisetum thunbergii	pen-ih-SEE-tum thun-BER-jee-eye

Growing your confidence

- There is no right or wrong way to pronounce a botanical Latin name.
- Whenever you see a botanical plant name, practice saying it out loud.
- Break it down into syllables and sound out each of them in your own accent, then put them all together. You can't go far wrong.
- A lifetime isn't long enough to learn every plant. You'll always encounter new plants and take a guess at how to pronounce their names.
- If you want help with the pronunciation of a particular name, you can search online: *"[Plant name] pronunciation".*

Need help guessing a pronunciation?

- Pronunciation of botanical Latin is very **flexible** and doesn't really matter. There will be others who pronounce a plant name the same way you do.
- It can still be helpful to have "rules of thumb" to guide our guesses.
- With this in mind, here are some patterns in Latin name pronunciation that can be helpful in **guiding your guesses** on where to place emphasis. (There are exceptions and this has been simplified).

Emphasis is often placed on the second-to-last syllable (called the '**penult**') *unless* the penult is spoken very quickly (a 'short penult'), then the syllable before it (third-to-last) is emphasised

Number of syllables in the word	Generally emphasise the:	So the plant:	Is often pronounced:
2 syllables	first syllable (still 2nd to last)	*Prunus*	PROO-nuhs
		Vinca	VING-kuh
3+ syllables (long penult)	2nd-to-last (the 'penult')	*Festuca*	feh-STOO-kah
		Rhododendron	row-duh-DEN-druhn
3+ syllables (short penult)	3rd-to-last (the 'antepenult')	*Geranium*	juh-RAY-nee-um
		Eupatorium	yoo-puh-TOR-ee-um

You don't need to memorise this because **pronunciation doesn't really matter**. This is just here for reference in case you're ever looking for pointers.

A quick check-in

How do you feel about using botanical plant names?

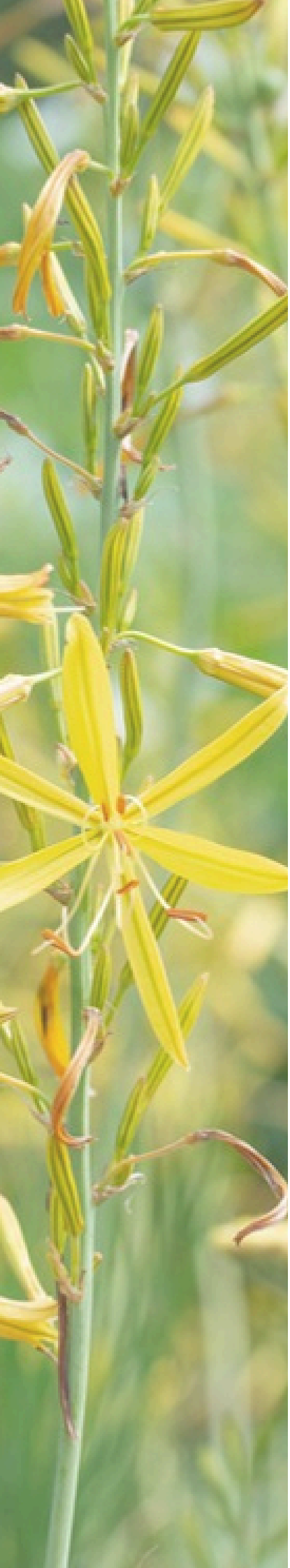
When you see a plant label with a Latin name, what's your first reaction? Curiosity, confusion, indifference, interest, something else?

Do you have any hesitations about using botanical plant names?

What would "feeling fluent" in plant names look like for you?

Use the space below to note any thoughts:

What's on your mind? What do you hope might change for you once you understand botanical names better? If you have any questions about this topic, note them here.



Chapter 2

HUNDREDS OF THOUSANDS OF PLANTS: ONE SIMPLE NAMING SYSTEM

Let's start to unpack how botanical plant names are structured. We'll look at how each part of a plant's name fits together, and how to use that structure to understand what you're looking at.

We'll begin with genus and species, the two core elements that form the foundation of plant naming. Then we'll explore the additional ranks; subspecies, varieties, and forms. These help us to recognise and describe natural variation within plants. We'll also look at how cultivars fit in, and how human influence shapes many of the plants we grow in our gardens.

Finally, we'll take a step back and look at plant families, which give us a wider view of how plants are related. By the end of this chapter, you'll be able to read plant names with confidence and recognise some of the information they contain.

A neatly organised hierarchy

Every known plant on Earth
has been named in accordance
with a universal
botanical naming hierarchy.

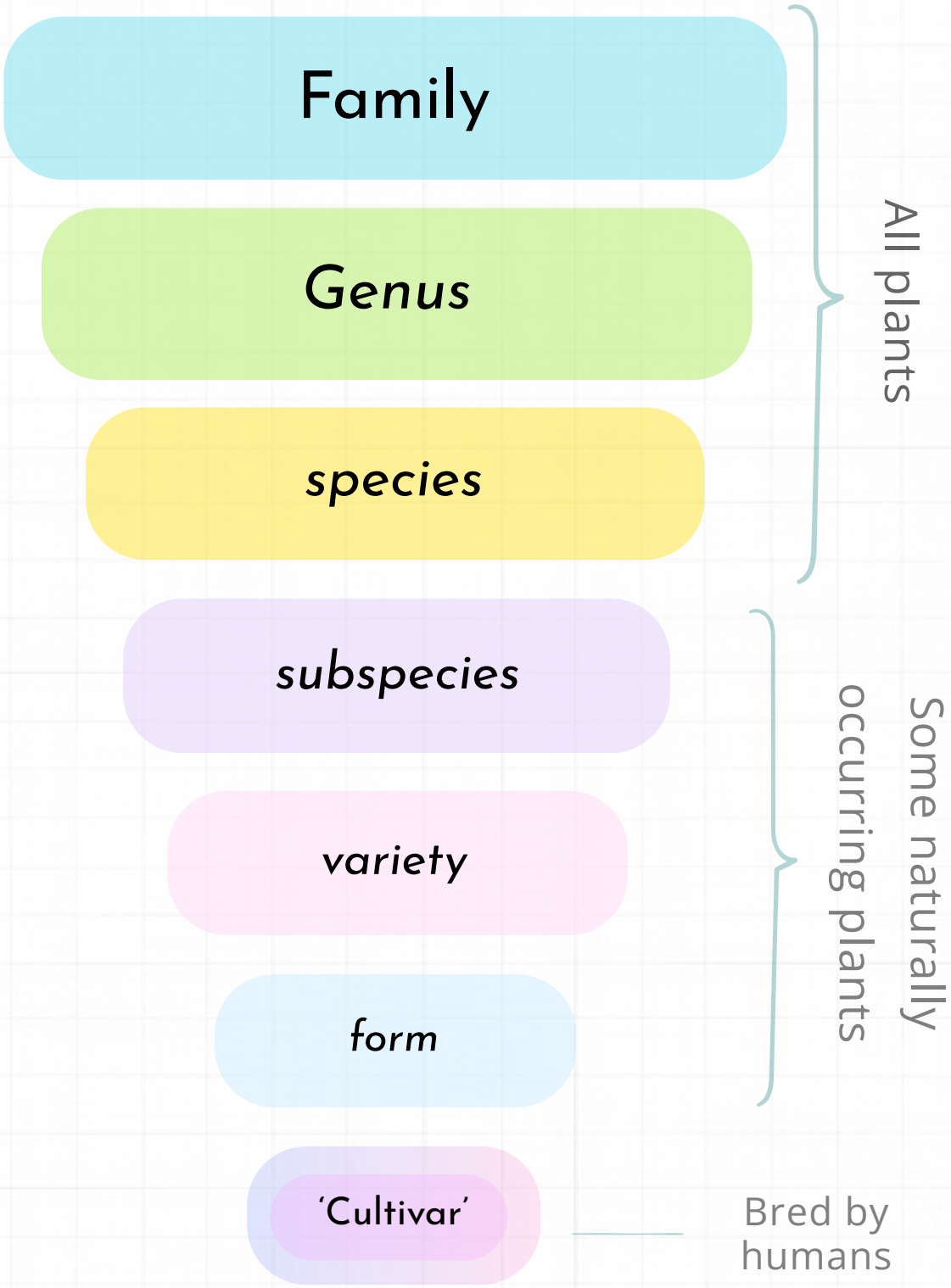
This gives us the context to understand a plant in relation to other plants.

When you have an understanding
of this hierarchy, plant names
seem a lot less...

...random.

Botanical naming system

Hierarchy of name elements



Genus and species

Every plant's botanical name starts with its **genus** and is followed by its **species**. The two names that work together in the binomial (two name) system.

Genus

- The **first word** in a plant's name.
- Always starts with a **Capital** letter.
- Should be written in ***italics*** (or underlined if no italic font is available or if handwritten).
- One genus can contain multiple species (or just one species).
- Genus examples include:
  - *Acer* – the maples
  - *Quercus* – the oaks
  - *Poa* – the meadow grasses
  - *Trifolium* – the clovers.
- "Genera" is the plural of genus, i.e. one genus, two or more genera.
- Genus names can be shortened to their first letter followed by a "." (e.g. *Pieris* can become "*P.*") so long as the context makes it clear which genus is being mentioned.

species

- The **second word** in the name.
- Starts with a **lowercase** letter.
- Should be written in ***italics*** (or underlined if no italic font is available or if handwritten).
- A species always belongs to a genus.
- Species in the same genus are genetically closely related.
- The same species name can be used in different genera, but this doesn't signify any relationship. For example:
  - *Pieris japonica* and *Spiraea japonica* are not closely related (just how Alan Shearer and Alan Carr aren't closely related)
  - *Syringa vulgaris* and *Primula vulgaris* have the same species name but are not closely related.

An easy way to remember:

We already use and understand the concepts of **genus** and **species** in everyday language.

Genus / genera = **generic**

If something is **generic**, we understand it as **general** or typical of a group but without much detail.

The genus name first **helps us to narrow down which generic group of plants** we're looking at.

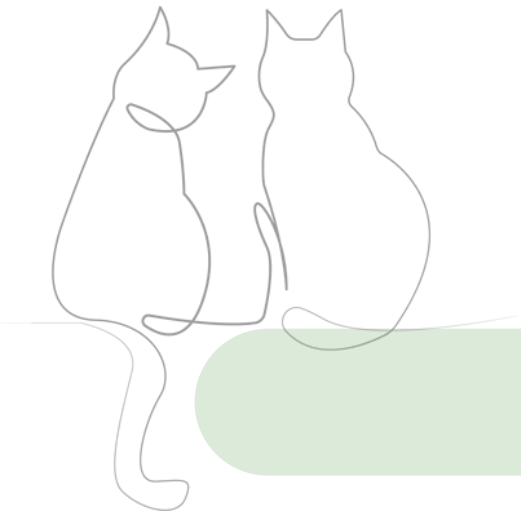
E.g. *Malus* is the genus name for apple trees.

Species = **specific**

And when we understand something to be **specific**, we know that it's been clearly defined and identified.

The species name **helps us to know specifically which member of the generic group of plants** we're seeing.

E.g. *Malus angustifolia* tells us the name of the specific type of apple tree.



Copycat word endings

Notice how the ending of a species name often copies the ending of the genus name. The species ending depends on whether the genus name is classed as masculine or feminine in Latin. e.g. if the genus ends in "*us*" the species name will follow suit and end in "*us*". And if the genus name ends in "*a*" then the species name will often copycat and end in "*a*".

Examples:

These plants use variations of the same species name, *alba/ album/albus* meaning "white". The endings copy those of their respective genus names.

*Ros**a*** x *alb**a***
*Lami**um** alb**um***
*Asphodel**us** alb**us***

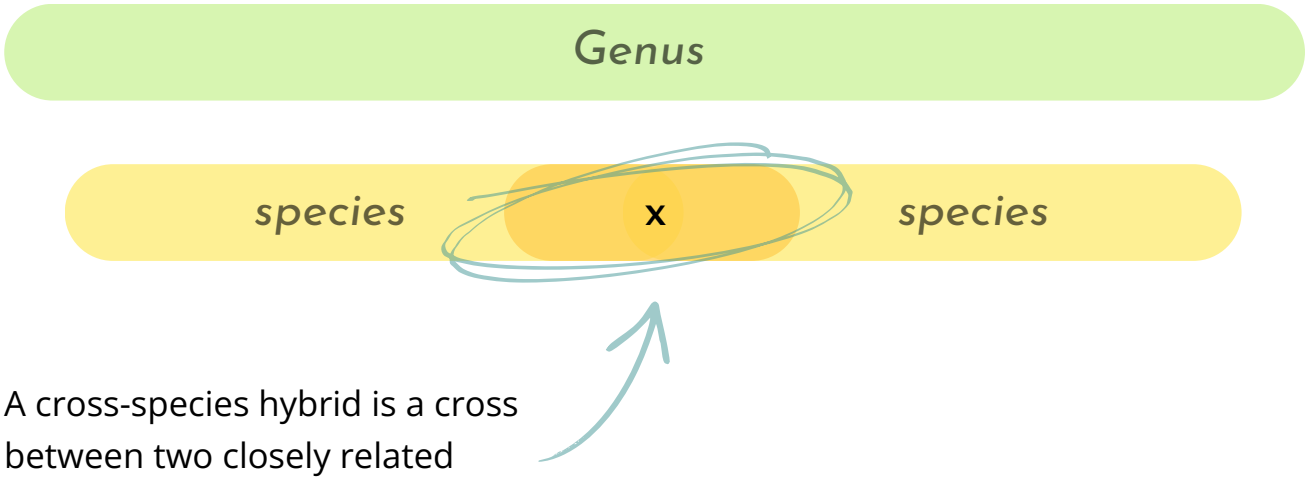
Exceptions:

You may come across occasional exceptions, e.g. *Taxus baccata*. This may be because a genus name has changed at some point. Also, the gender of a genus name isn't always obvious, plus some species names don't change to follow them. So think of copycat endings as a general pattern that can often help you recall a plant's name.

Hybrids

- Hybrids are a cross between two different species.
- Usually, the two species will belong to the same genus.
- On rare occasions, two species in different genera can be crossed.
- Hybrids can occur naturally (in the wild).
- But they occur more commonly in cultivation when two closely related plants that would normally grow in different regions are brought together in gardens or plant nurseries.
- A well-known animal example of a hybrid is the Liger, which is a cross between a lion (*Panthera leo*) and a tiger (*Panthera tigris*).

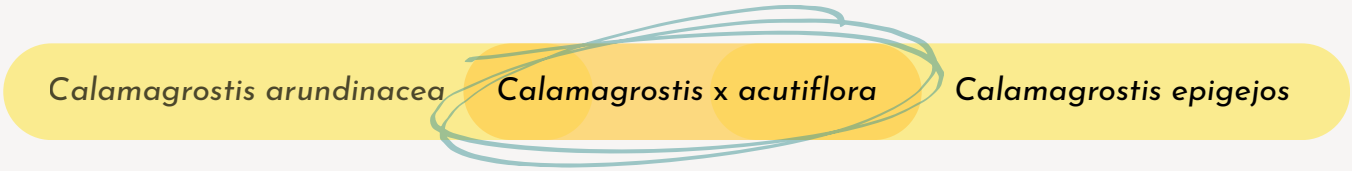
Cross-species hybrids



A cross-species hybrid is a cross between two closely related species in the same genus

- Also called an **interspecific hybrid**
- Officially named hybrids are written with a lowercase "x" (not italicised) between the genus and the hybrid name.

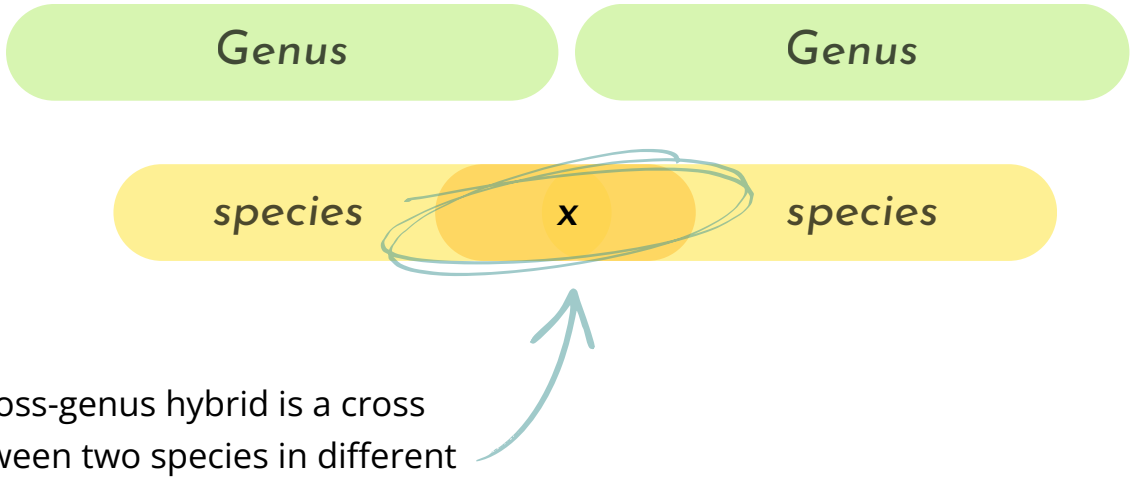
Example:



- The officially named hybrid between *Calamagrostis arundinacea* and *Calamagrostis epigejos* is called ***Calamagrostis x acutiflora***
- Note that the genus name stays the same, but both species names have been replaced with a new hybrid name.
- If a hybrid has not yet been officially named, it may be written as:

  Calamagrostis epigejos x *Calamagrostis acutiflora*

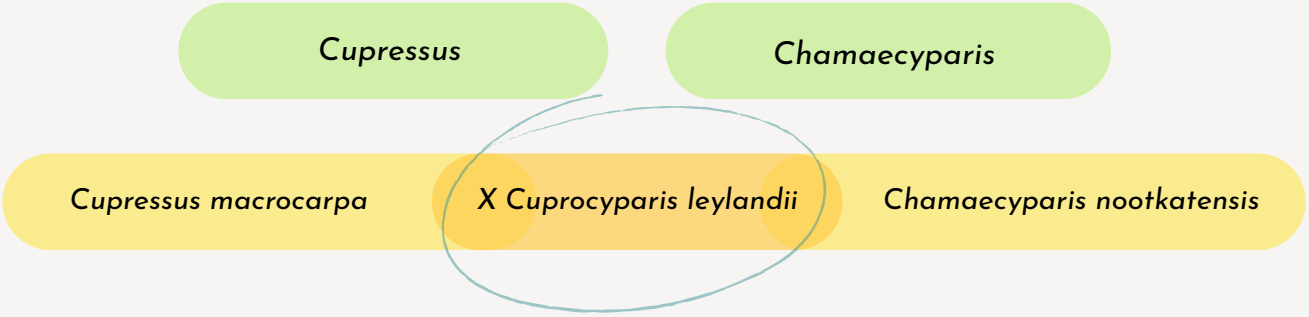
Cross-genus hybrids



A cross-genus hybrid is a cross between two species in different (but closely related) genera

- Also called an **intergeneric** hybrid.
- Much rarer than cross-species hybrids.
- Officially named cross-genus hybrids have an uppercase "X" (not italicised) before the new hybrid genus name.
- As well as gaining a completely new hybrid genus name, cross-genus hybrids also gain a new hybrid name to take the place of the species.

Example:



X *Cuprocyparis leylandii* is a cross between *Cupressus macrocarpa* and *Chamaecyparis nootkatensis* - two species from two different genera. This produced a new species that sits under a different, hybrid genus.

The need for more ranks

- Carl Linnaeus recognised that plants in the same species as each other often looked quite different from one another.

- Linnaeus didn't come up with a way to formally classify these naturally occurring variations, but future biologists, botanists, and naturalists did.

- They came up with the terms **subspecies**, **variety**, and **form**.

Using the extra ranks (general notes)

- Subspecies, variety, and form can be used in addition to the genus and species (but **only when there is enough natural variation in a species** to warrant using them).
- One, two, or all three of these additional ranks can be used if required.
- Plants can use any one of these ranks without requiring another, because each rank is used to denote a different type of naturally occurring variation.
- These additional ranks also have a hierarchy, with subspecies being the highest, followed by variety, then form.
- This means that if more than one rank is used, they would be written in the order subspecies, variety, then form.

Examples:

Rank	Real world example
Subspecies	*Molinia caerulea* subsp. *arundinacea* (Purple moor-grass)
Variety	*Betula utilis* var. *jacquemontii* (Himalayan birch)
Form	*Pennisetum alopecuroides* f. *viridescens* (Green Chinese fountain grass)
All three	*Narcissus romieuxii* subsp. *albidus* var. *zaianicus* f. *lutescens*

Subspecies

- Naturally occurring variations that are the result of plants in the same species becoming geographically separated and evolving separately from each other.
- The different populations gradually evolve and adapt to their new environment, and develop distinct physical differences.
- Subspecies is abbreviated to “subsp.” followed by the subspecies name, like:
  - *Molinia caerulea* subsp. *arundinacea* – Purple moor-grass.
- Note: the abbreviation “subsp.” is not italicised.

Variety

- Small, naturally occurring variations that occur in the **same geographical range**.
- Variety is abbreviated to “var.” followed by the variety name, like:
  - *Rudbeckia fulgida* var. *deamii* (Deam’s coneflower)
- Note: the abbreviation “var.” is not italicised.

Form

- Very minor, naturally occurring variations that **occur sporadically**.
- Form is abbreviated to “f.” followed by the form name, like:
  - *Pennisetum alopecuroides* f. *viridescens* (Green Chinese fountain grass)
- Note: the abbreviation “f.” is not italicised.

Cultivars

- Cultivars are plants that have been selected, bred, and registered with the relevant authorities.
- They're very common in gardens.
- Estimated at least one third of plants available from garden centres and plant nurseries may be cultivars.
- Many cultivars would never survive in the wild, as the features humans find attractive can make plants less resilient.

How cultivar names are written

- Written at the end of the plant name (on the right-hand side), after all other ranks.
- Can be in **any language other than Latin** (a Latin ban started in 1959, so some older cultivar names are in Latin).
- Written in single quotation marks.
- Not italicised.
- Each word is capitalised.

Example cultivars:

- *Phlox divaricata* 'White Perfume' (Sweet William).
- *Euphorbia* x *pasteurii* 'John Phillips' (Spurge).
- *Molinia caerulea* subsp. *caerulea* 'Heidebraut' (Purple moor-grass).

(If the common name is also being given, it should be written in brackets after the botanical name, like in the above examples).

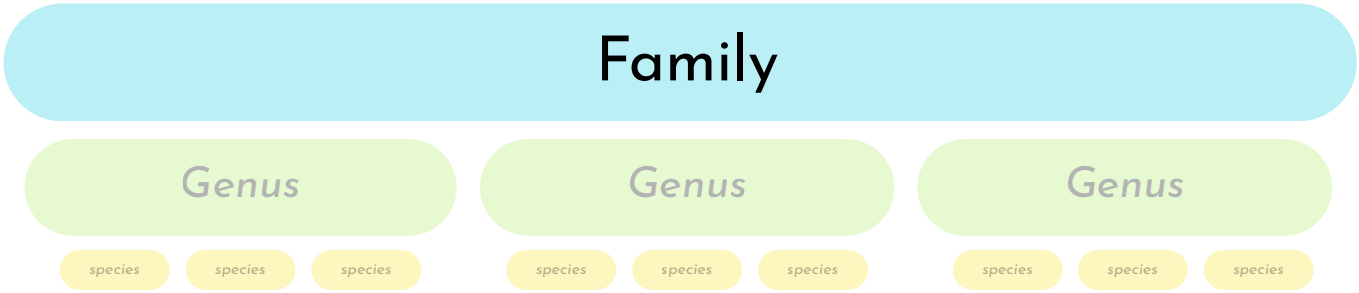
In case you're curious...

This is how cultivars are officially registered:

- Cultivars are registered with an **International Cultivar Registration Authority** (ICRA).
- There are many different ICRAs throughout the world (over 70), and each one is responsible for one or more groups of plants.
  - e.g. the **Royal Horticultural Society** is the ICRA for genera including *Rhododendron*, *Dianthus*, *Delphinium*, *Dahlia* and *Clematis*.
- The ICRAs are appointed by the **International Society for Horticultural Science** through its Commission for Nomenclature and Registration.

Plant families

- Always ends in the letters "**aceae**" (pronounced AY-see).
- A wider classification than the genus.
- A family can contain one or more genera.
- Families help us understand the genetic relationships between different genera, because **plants in the same family are genetically related**.
- Knowing what family a plant is in can help us to predict its growing requirements and what pests, diseases, or environmental conditions it may be susceptible to.
- Help us identify plants more easily, as plants in the same family can share characteristics, e.g. the shape of their stems or arrangement of leaves.



Rosaceae
The rose family

Poaceae
The grass family

Can you name any other plant families?

How plant family names are written

- Not usually included in the botanical plant name.
- Plant family names are not italicised.
- Shown above the genus name on Wikipedia.
- May be used in a sentence like this: "*Prunus* is a genus in the rose family, the Roseaceae".

Plant families are always named after one of the genera in that family (the "**type genus**"), e.g.

- The genus *Aster*, is the type genus of the Asteraceae (the daisy family).
- The genus *Brassica*, is the type genus of the Brassicaceae (the cabbage family).

Just 10 families account for most garden plants

There are over 400 plant families, but there are 10 that are most worth learning because of how many garden plants they cover.

However, whilst knowing them can be helpful when you to identify a plant you don't know (or work out what else a plant is related to), you don't need to memorise them. It's just useful to know plant families exist.

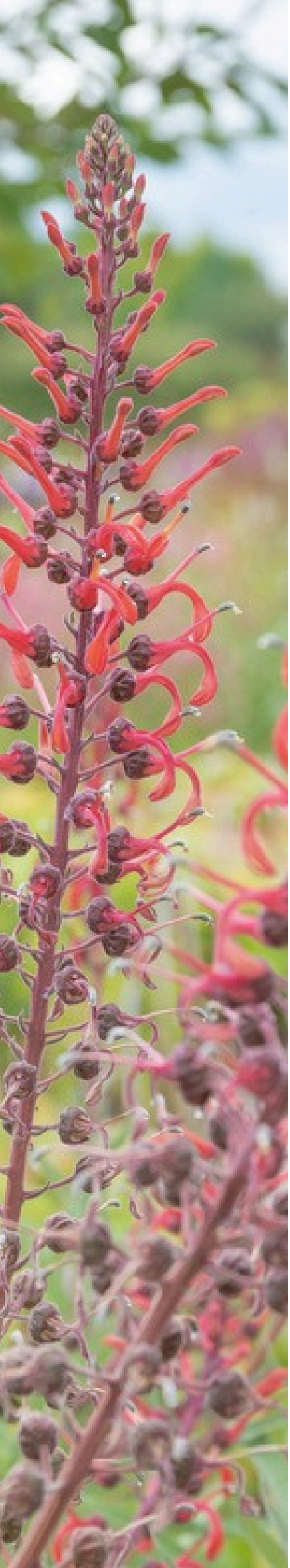
Many garden plants are included in these 10 families:

Botanical family name	Common family name	Approx.species count	Genera in this family include:
Apiaceae	Carrot family	3,700	***Apium*** *(Celery), Daucus (Carrot), Eryngium* (Sea-holly)
Asteraceae	Daisy family	23.000	***Aster***, *Bellis perennis* (English Daisy), *Dahlia, Helianthus* (sunflower)
Asparagaceae	Asparagus family	2,500	***Asparagus*** (garden asparagus), *Hosta, Muscari* (grape hyacinth)
Brassicaceae	Brassica family	3,700	**Brassica** (cabbage), *Erysimum, Alyssum*
Caryophyllaceae	Campion family	2,200	***Dianthus*** *(pinks/carnations), Silene (campions/catchflies), Gypsophila (baby's breath),*
Fabaceae	Pea family	19,000	***Faba**** *(vetch), Acacia (wattles), Indigofera (indigo), Crotalaria (rattlepods), Mimosa, Trifolium (clover)*
Lamiaceae	Mint family	7,000	***Lamium*** (dead nettle), *Salvia* (sage), *Mentha* (mint), *Lavandula (lavender)*
Poaceae	Grass family	11,000	***Poa*** (bluegrass), *Festuca* (fescue), *Triticum* (wheat)
Ranunculaceae	Buttercup family	2,500	***Ranunculus*** (buttercups), *Clematis, Delphinium, Anemone*
Rosaceae	Rose family	3,000	***Rosa*** *(roses), Prunus* (cherries, plums, peaches), *Malus* (apples)

* Faba is no longer the genus name used for vetch, which is instead called *Vicia*. However, Faba remains the type genus for the Fabaceae

Space to list / look up some more plant families:

Botanical family name	Common family name	Approx. species count	Genera in this family include:



Chapter 3

UNCOVERING HIDDEN MEANINGS

Botanical names aren't just labels to memorise. Many contain useful clues that can help us understand more about a plant. In this chapter, we'll explore what's in a name.

We'll discuss how some plants are named after people, from well-known figures to lesser-known botanists and plant hunters. We'll also look at names that point to a plant's origin or natural habitat, offering hints about where it grows best. Finally, we'll explore names that describe physical features such as colour, shape, scent, or flowering time.

You don't need to learn Latin to benefit from this. The aim is to start noticing patterns and making simple connections. By the end of this chapter, plant names will feel less like random words and more like clues to help understand the plants themselves.

Plants named after people

- Carl Linnaeus didn't like naming plants after people, but many other people who named plants did.
- Plants are commonly named after individuals who worked with plants in some way or another (botanists, biologists, plant hunters, explorers etc.).
- They can also be named after people who didn't work with plants, but this is more common with cultivars.

Species, subspecies, varieties, and forms named after individual people

- Plants named after a **woman or girl** usually end with "***ae***", rhyming with "day". Examples include:
    - *Iris danfordiae* – Named after 19th-century traveller and botanist Antoinette Danford.
    - *Euphorbia amygdaloides* var. *robbiae* – Named after Mrs. H. Robb, the wife of a British clergyman who had the plant growing in her garden in the 19th century.
- Plants named after a **man or boy** normally end with **"*ii*"**, often pronounced "EE-eye", for example:
    - *Berberis darwinii* – Named after the English naturalist Charles Darwin.
    - *Primula forrestii* – Named after Scottish botanist George Forrest.

Notice how when a species, subspecies, variety or form is named after a person, **the first letter remains lowercase** (i.e. *darwinii* is correct, *Darwinii* would be incorrect).

Cultivars named after people

It's usually very obvious when a cultivar is named after a person, as cultivars are not written in Latin so the name isn't changed. The name also keeps its capital letters, as cultivars are capitalised. Examples:

- *Calamagrostis* x *acutiflora* 'Karl Foerster' – Named after the German horticulturist Karl Foerster.
- *Nepenthes* 'Bill Bailey' – Named after English comedian Bill Bailey.

Genera named after people

- It's often less obvious when a genus is named after a person, as these names don't have to use a specific ending.
- They're often named after people with names that are no longer in common use, or with names that we are not familiar with. e.g.:
    - The genus *Kniphofia* – Named after Johann Kniphof.
    - The genus *Fuchsia* – Named after Leonhart Fuchs.

If plants were named after you...

If a species in the *Primula* genus was named after you, it'd be called:

And if it was named after someone of the opposite gender, its name would be:

If a new cultivar of e.g. *Nepenthes* was named after you, it might be called:

Plants named after places

- Species, subspecies, varieties, and forms can sometimes be named after countries or regions, or after habitats.
- Plants named after countries or regions can sometimes tell us the plant originates from there, but that's not always the case. So it's better to assume that it simply means it's just "associated with" the place.
- A plant's name can indicate the habitat in which it may grow in the wild.

Indication of a country or region might look like:

- *japonica* – associated with Japan.
- *europaea* – associated with Europe.
- *germanica* – associated with Germany.

Names describing a habitat include:

- *aquatica* – associated with aquatic habitats.
- *montana* – associated with mountains.
- *sylvestris* – associated with woodland.

Plant names describing characteristics

- Botanical names often describe the appearance or other physical characteristics of a plant.
- This can be helpful when identifying plants.
- The names can describe characteristics such as a plant's colour, its form, life cycle, size, time of year or rarity.
- These names sometimes specify which part of the plant they refer to.

A name describing colour might look like:

- *argentea* – silver.
- *purpurea* – purple.
- *roseum* – pink.

Names describing texture include:

- *farinosa* - floury or powdery surface.
- *lanata* - covered in woolly hairs.
- *rugosa* - rough, wrinkled surface.

Example names indicating parts of a plant:

- *carpa* - fruit.
- *folia* - leaves.
- *rhiza* - roots.

Names describing countries

Name	Associated with	Makes me think of...
canariensis	the Canary Islands	
chinensis	China	
europaea	Europe	
gallica	France	
genevensis	Geneva	
germanica	Germany	
koreana	Korea	
japonica	Japan	
lusitanica	Portugal	
mongolica	Mongolia	
sibirica	Siberia	
sinensis	China	
taiwanensis	Taiwan	

Names describing habitats

Name	Associated with	Makes me think of...
aquatica	aquatic habitats	
arenaria	sandy areas	
arvensis	cultivated fields	
campestre	fields	
maritima	the coast	
montana	mountains	
palustris	marshes or bogs	
pratense	meadows or fields	
rivale	rivers	
ruderalis	disturbed ground	
stagnalis	still water	
sylvestris	woodland	

Names describing colour

Name	Associated with	Makes me think of...
alba / album / albus	white	
argentea	silver	
aurea	golden	
aurantiacus	orange	
caerulea	blue	
flammeus	flame-coloured	
lutea	yellow	
nigra	black	
purpurea	purple	
roseum	pink	
rubens / rubra	red	
sanguinea / sanguineum	blood red	
viridis	green	

Names describing form / life cycle

Name	Associated with	Makes me think of...
angustus	narrow	
annua	annual (living for one year)	
arborea	tree-like	
biennis	biennial (living for two years)	
erecta	erect (upright)	
fastigiata	upright / columnar	
fruticosa	shrubby	
pendula	weeping	
perennis	perennial (living for more than two years)	
prostrata	flat on the ground (prostrate)	
repens	creeping	
sempervirens	evergreen	
spicata	spiky	

Names describing size

Name	Associated with	Makes me think of...
gigantea	gigantic	
grandis	large	
longa	long	
macro	large	
media	middle	
micro	very small	
minor	smaller	
nana	dwarf	
parva	small	

Names describing time of year

Name	Associated with	Makes me think of...
aestivalis	summer	
aestivus	summer	
autumnalis	autumn	
hibernalis	winter	
hiemalis	winter	
perennis	lasting through multiple seasons	
praecox	early	
serotinus	late	
tardus	late	
verna	spring	

Names describing parts of a plant

Name	Associated with	Makes me think of...
anthos	flower	
caulis	stems	
carpa	fruit	
folia	leaves	
flora	flowers	
gemma	buds	
phylla	leaves	
rhiza	roots	
sperma	seeds	
spina	spines	

Names describing textures

Name	Associated with	Makes me think of...
asper / asperata / asperum	rough to the touch / sandpaper-like surface	
farinosa	powdery / floury surface	
glabra / glabrum	smooth / without hairs	
glauca / glaucum / glaucus	powdery / coated with a pale, powdery "bloom"	
glutinosa / glutinosum	sticky / covered in a sticky, adhesive substance	
lanata / lanatum	woolly / covered in dense, long, matted wool-like hairs	
mollis / molle	covered with soft hairs	
pubescens / pubescentis	downy / hairy / covered in fine, soft, short hairs	
rugosa / rugosum	wrinkled / rough / puckered surface	
scabra / scabrum	stiff hairs / sharp points / rough to the touch	
sericea / sericeum	silky / covered in long, soft, close-pressed hairs	
spinosa / spinosum / spinosus	spiny / thorny / covered with spines	
villosa / villosum	softly hairy / covered with long, soft hairs	

Names describing rarity

Name	Associated with	Makes me think of...
communis	common	
frequens	frequent	
infrequens	infrequent	
raro	rare	
singularis	singular	
vulgaris	common/widespread	

Names describing usage

Name	Associated with	Makes me think of...
esculentum	edible	
officinalis	herbal/medicinal	
sativa	cultivated/edible	
tinctoria	used for dyeing	

Linking parts of plant names together:

The names of plant parts (leaves, stems, flowers etc.) are often joined with words that describe their appearance.

Examples include:

- *angustifolia* – narrow leaves
- *grandifolia* – large leaves
- *macrocarpa* – big fruit
- *microphylla* – small leaves
- *monogyna* – one ovary
- *quercifolia* – oak-leaved (*Quercus* is the genus name for Oak).

Names that draw comparisons:

- *pseudo* – meaning **"false"** (e.g. *Acer pseudoplatanus* translates to "false plane tree")
- *oides* – means **"resembling"** (e.g. *Phlomoides tuberosa* where the genus name translates to "resembling a *Phlomis*", which is a completely different genus).

Work these names out...

Using the examples on the previous pages, work out the meanings of the the combined words below. Remember the word endings can change depending on whether the genus name is considered a masculine or feminine word in Latin. So some might end a little differently to the examples ending in “a”.

pseudocarpus –

trifoliatum –

microcarpus –

viridiflorus –

albiflora –

Answers: *pseudocarpus* – false fruit, *trifoliatum* – three leaves, *microcarpus* – small fruit, *viridiflorus* – green flower, *albiflora* – white flower

Space to note any thoughts:

Plant names are fun. Pass it on!

If any of your friends or family members would enjoy learning about plant names in this free course, please tell them about it.

You might **make their day** (you'll certainly make mine).

Get the free course here:

Scan this QR code with your camera phone to find the sign-up page on the website, then send them the link

If you want to be a sharing superstar, please **display this page on any communal noticeboards** you have permission to share things on. You never know who you might inspire.

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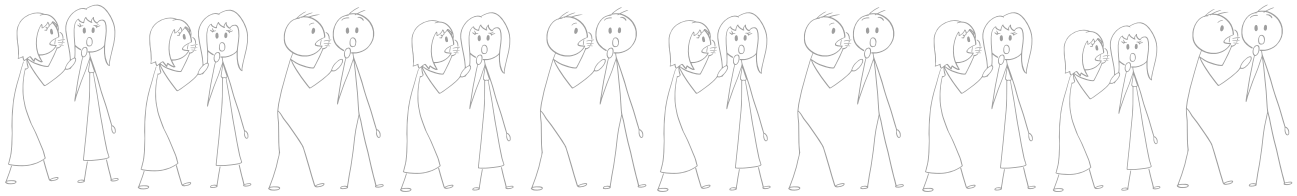


PUTTING THEORY INTO PRACTICE

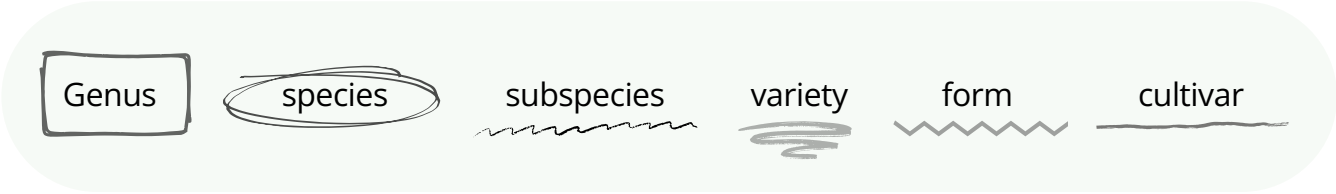
Now let's apply what we've covered and see how botanical names work in real world examples. The plants we'll look at in this section are garden superstars that are worth getting to know.

For each plant, we'll examine its name to explore meaning and structure. We'll look at genera, species, cultivars, and the clues hidden within each plant's name. And we'll also explore why these plants are worthy of a spot in your garden. As you go through these examples, take your time and notice what stands out. You don't need to memorise all the details we cover here; the aim is simply to increase your familiarity with breaking down and understanding botanical plant names in the real world. Practice pronouncing all these names too. You're far more likely to use botanical names if you feel confident saying them aloud. Confidence comes from doing, so repeat them out loud lots of times to get used to hearing yourself say them.

What clues can you find?

In the following pages, we'll take a close look at the 10 plants, their botanical names and why they make such excellent garden plants. But first, what information can you guess from their names?

Use the space to make notes about any information the name might give away, and any thoughts or connections that spring to mind based on their name alone (e.g. "sounds like..."). Use the key below to identify parts of the names when you notice them:



Sanguisorba officinalis 'Red Thunder'

Malus baccata 'Street Parade'

Trifolium rubens

Betula utilis var. *jacquemontii*

Bistorta officinalis 'Superba'

Angelica gigas

Begonia grandis subsp. *evansiana*

Miscanthus sinensis

Potentilla fruticosa 'Limelight'

Helianthus 'Lemon Queen'

Sanguisorba officinalis 'Red Thunder'

Common name:

Red Burnet

A **herbaceous perennial** that blooms **all summer long**, with attractive seed heads and stems through the **winter**.

What does its name tell us?

Genus: *Sanguisorba* (in Latin this translates to "blood absorber")

Species: *officinalis* (means used in medicine)

Cultivar: 'Red Thunder' (bred for gardens by humans)

So we can guess this plant species has, at some point, been used in medicine to absorb blood. A little extra research reveals that this plant has been used for centuries as an astringent agent to stop bleeding, treat burns, scalds, and skin infections.

Why's this plant special?

As well long a flowering time and beautiful seed heads in winter, this plant starts growth very early. Within a week or so of being cut back in spring, new leaves are covering and protecting the soil. They help prevent compaction, shield from hard frosts and harsh sun, and support soil life by keeping conditions more consistent and feeding nutrients to the soil through photosynthesis and root exudates.

How will you remember it?

Malus baccata 'Street Parade'

Common name:
Siberian crab apple

A small-to-medium **tree** that blossoms in **spring**, then produces berry-like (in appearance) fruit by **autumn** and holds onto them **all winter** long.

What does its name tell us?

Genus: *Malus* (an old Roman name for apples)

Species: *baccata* (means "with berries" or has berry-like fruit)

Cultivar: 'Street Parade' (bred by humans for gardens)

This plant is closely related to all of the other apples and will grow in a similar way to them (small-to-medium trees). The species name suggests that its fruit may be small and "berry-like", which they are. The fact that it is a cultivar tells us it was probably selected because it does well in gardens.

Why's this plant special?

Perfectly sized for small to medium gardens, this tree attracts wildlife all year round. From early spring, it's laden with bright white flowers that are a magnet (and lifeline) to pollinating insects. Within weeks, it's dripping with small, dark red fruits that stay attached to the tree all through winter, and can often still be seen alongside next year's blossom... unless the hungry birds eat them all by then.

How will you remember it?

Trifolium rubens

Common name:
Ruddy clover

A hardy **herbaceous perennial** that flowers and provides nectar for pollinators **throughout summer** and then dies back to ground level until spring.

What does its name tell us?

Genus: *Trifolium* (meaning "three leaves")

Species: *rubens* (means red - think of a ruby)

Its leaves are in threes, or at least are divided into three "leaflets". Something about this plant is red. Spoiler alert: it's the flowers. With experience you'll recognise *Trifolium* as the genus that contains all of the clovers. A handful of which are good for borders, and others for mixed-species lawns and meadows.

Why's this plant special?

In naturalistic gardening, it's important to grow plants that carry the essence of the surrounding landscape, and clovers are native to temperate landscapes all over the world. *Trifolium rubens* does very well in garden borders, and by growing it, we can connect our garden to the surrounding ecosystem. This plant blurs the line between garden and natural landscape. Excellent news for your local pollinators!

How will you remember it?

Helianthus 'Lemon Queen'

Common name:
Perennial sunflower

A tall, hardy **herbaceous perennial** abundant with yellow flowers from summer through to late autumn when it dies back until the next spring.

What does its name tell us?

Genus: *Helianthus* (translating as "sun" (*heli*) "flower" (*anthus*))

Cultivar: 'Lemon Queen' (bred by humans for gardens)

Note: There is no species name due to uncertain genetic origins

The direct translation means "sunflower". And we can recognise this genus as the same one that contains the more familiar annual sunflower (*Helianthus annuus*).

Why's this plant special?

One word... gigantic! By mid-spring, it's already grown to well above head-height. It's upright and rarely collapses, yet is also a little lollopy. For most of the summer, it's a mass of leaves and stems with attractive form. Then as autumn approaches, it flowers like it's making up for lost time. Much smaller flowers than the annual sunflower, but far more abundant. This really is a special, enormous herbaceous plant.

How will you remember it?

Bistorta officinalis 'Superba'

Common name:
Common bistort

A clump-forming herbaceous perennial with dense foliage that flowers from **spring all the way through to autumn** before dying back until the following spring.

What does its name tell us?

Genus: *Bistorta* (means "twice-twisted")

Species: *officinalis* (meaning used in medicine)

Cultivar: 'Superba' (bred by humans for gardens)

The genus name doesn't give many clues away. We can tell from the species name that this plant was used medicinally. And its Latin cultivar name tells us this is an old cultivar, named before the 1959 ban on Latin cultivar names. We can guess it's likely to be showy, impressive, or... superb.

Why's this plant special?

I never worry this "set and forget" plant won't come back after a hard winter. As it's not the tallest grower, I like to position it at the front of a naturalistic border, either on the edge of a wildflower meadow, or in dappled shade cast by small trees and shrubs. Especially well suited to damp soils, it's really not too fussy and will gently spread to form big clumps in all but the least favourable borders.

How will you remember it?

Angelica gigas

Common name:

Purple parsnip

A tall, striking **biennial plant** that grows leaves in its first year, flowers in **late summer** of its second year, sets seed, then dies.

What does its name tell us?

Genus: *Angelica* (means "angelic")

Species: *gigas* (meaning giant - think "gigantic")

With such a descriptive and promising name, this plant was always going to be extra special. Angelic, even! It's also supposed to be gigantic. I'd say that's more true of the flower heads than the height of the plant itself.

Why's this plant special?

Pollinating insects can't get enough of it! In particular, wasps are drawn to its nectar. I know not everyone loves wasps, but trust me, with this in your garden, it's not you they'll be interested in. Beside this, the unusual, waxy, purple flower heads really are special. They stand out from other garden plants and draw the eye from a distance. The only downside; this is a biennial plant and does not self-seed readily. Its saving grace; it can be grown very easily from seed sown in pots in autumn, so be sure to save its seed in late summer.

How will you remember it?

Begonia grandis subsp. *evansiana*

Common name:
Hardy begonia

A hardy **herbaceous perennial** with foliage from **late spring** and pink flowers from **late summer** and long into **autumn**.

What does its name tell us?

Genus: *Begonia* (a genus named after Michel Bégon)

Species: *grandis* (meaning big or grand)

Subsp.: associated with someone named Evans (could be male or female)

You may be familiar with *Begonia*, but don't confuse this with the more common bedding and house plants that it's closely related to. Its name suggests that it's a big plant, but this is only compared to other *Begonia*. And it's named after the elusive Mr or Ms Evans.

Why's this plant special?

This plant really is one of a kind. One in 2,000, you might say. Because it's the only hardy *Begonia* I know. You could question whether this plant has a place in naturalistic gardens outside of China where it grows naturally, and I'd ask the same question. Possibly it doesn't, but I grow it anyway! I plant it in partially shaded areas where I notice it on occasion and it makes me smile. It's important to grow plants that make you smile.

How will you remember it?

Miscanthus sinensis

Common name:
Chinese silver grass

A **herbaceous perennial** ornamental grass that flowers from **late summer** and adds structure and beauty to the garden **all the way through winter**.

What does its name tell us?

Genus: *Miscanthus* (translates to "hated flower")

Species: *sinensis* (associated with China)

This plant was apparently hated by early botanists. Perhaps it was considered a weed in the area it was discovered, which we can guess is China. Remember that both *sinensis* and *chinensis* mean roughly the same thing.

Why's this plant special?

Once established, this is one of the toughest and most attractive ornamental grasses. Its huge clumps can be divided every few years; perfect for filling your garden. I also note ladybirds love *Miscanthus*. It doesn't offer anything in the way of nectar, but they do seem to enjoy sunning themselves as they cling onto its leaves and flower heads. I often find them living in the dense growth at soil level. A lovely reminder that there's more to supporting wildlife than growing flowers and berries.

How will you remember it?

Potentilla fruticosa 'Limelight'

Common name:
Shrubby cinquefoil

A bushy, hardy, **deciduous shrub** with pale yellow flowers that last from **late spring** through to **autumn**.

What does its name tell us?

Genus: *Potentilla* (translates to "small but potent")

Species: *fruticosa* (means shrubby)

Cultivar: 'Limelight' (bred and named by humans)

"Small but potent" may date back to when herbalists used this plant in medicine. We can correctly assume from the frequently used species name *fruticosa* that this is a shrub. The cultivar name 'Limelight' is also descriptive, perhaps alluding to its pale yellow flowers that subtly compete for your attention.

Why's this plant special?

To me, this is one of the best garden shrubs. It flowers for an exceptionally long time, and its delicate leaves look lovely from early spring. Plus, it's not fussy at all. You can trim it into a ball shape, if that's your style, or you can let it do its own thing. It'll form a beautiful small shrub if you leave it alone. And if it does get too big for your area, you can cut it back hard in spring to regenerate it. A perfect, resilient plant for a sunny spot.

How will you remember it?

Betula utilis var. *jacquemontii*

Common name:
Himalayan birch

A small-to-medium **tree** that blossoms in **spring**, then produces berry-like (in appearance) fruit by **autumn** and holds onto them **all winter** long.

What does its name tell us?

Genus: *Betula* (an old Latin word for birch trees)

Species: *utilis* (meaning useful - as in "utility")

Variety: *jacquemontii* (after a male named Jacquemont)

The genus *Betula* is worth memorising as all birch trees are in this genus. This very special variety, known for its bright white stems, was named after French naturalist Victor Jacquemont.

Why's this plant special?

All of the birches have a wonderful, graceful yet wild form that works so well in naturalistic gardens. Many birches also have striking bark. This one's bark is smooth, bright white, doesn't peel much and has a beautiful pattern from the horizontal markings called lenticels. I think the secret to why birches work so well in gardens is linked to their abundance in ecosystems throughout the world. We're so used to seeing them that they feel right at home in any garden.

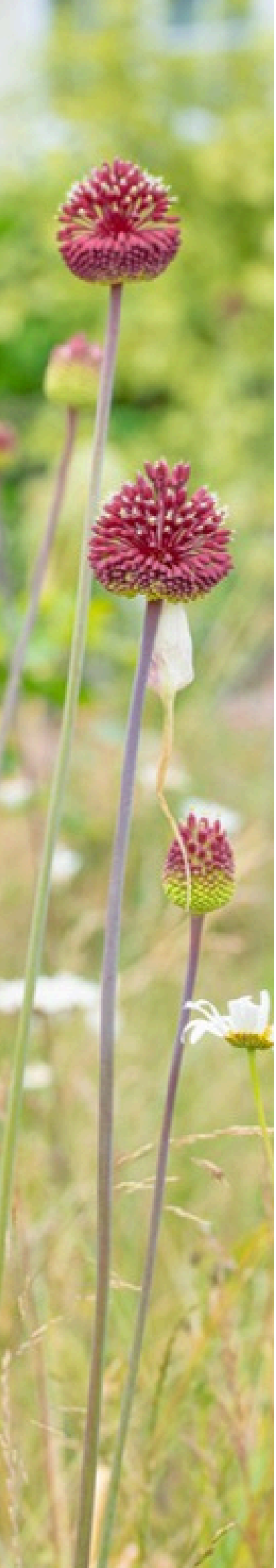
How will you remember it?

Space for your thoughts

Before moving on to the final section of this workbook, pause to reflect on what you're now thinking and feeling about using botanical plant names.

Are you any more comfortable and confident than you were at the beginning of this course? Do you now understand the answers to any questions you had at the start? Are any new questions coming up for you? Any "aha!" moments? Any favourite new words you've learned? Any Latin names you've encountered previously that you now understand better? Did you notice any other connections?

Use this space to explore your thoughts and make notes.



Chapter 5

TAKE THIS KNOWLEDGE FORWARD

It's one thing to learn the information covered in this course. But it's another to then integrate it into the way you garden and grow your understanding of plants. Let's look at how to apply this to real world gardening.

In this last chapter, we'll look at some simple ways to keep using botanical names as part of your ongoing growth as a gardener. These practical habits will help you notice names more often, break down their components to derive meaning, look things up with confidence, and find plant information from reliable sources. Acting on the tips shared in this chapter will place you in good stead for lifelong learning in a way that will help you remember and make sense of plants in a more connected way. Here's how to grow a garden of plants in your mind.

Use in everyday gardening

The best way to make the most of the knowledge from this course, and make sure it stays with you for life, is to use it little and often.

Pay attention to botanical names

Next time you're in a garden centre, public garden or you see a plant's name in writing: slow down a moment. Look at its botanical name. Start by picking out the genus and species. If there's more information, see what you recognise. Maybe a familiar word, a clue about colour, shape, or a reference to a place the plant is associated with. Take photos of interesting names to look up later.

You don't need to memorise everything

It's more helpful to focus on noticing patterns. The more often you see the same words and structures repeated, the more familiar names will become. And the more plants you'll discover and remember.

Follow your curiosity

When you think of a plant by its common name, it's fun to look up its botanical name. This is about expanding your plant knowledge, not replacing it. So it's not "wrong" to also use common names. But it's useful and interesting to also learn a plant's botanical name and what it tells you.

A simple habit to keep learning

Like a tree, slow and steady is a successful way to grow. If you want to steadily grow the number of plant names you know, try this approach:

- Learn one or two botanical names each week
- Write down anything you recognise or can work out
- Create your own way of remembering the name
- Anchor it in your memory by asking yourself questions like "is this related to other plants I know?" and "what other plants does this remind me of?"
- Revisit names you've seen before

You might find it helps to build familiarity if you keep a simple record. You can use the template on the following page for this, and make as many copies as you like.

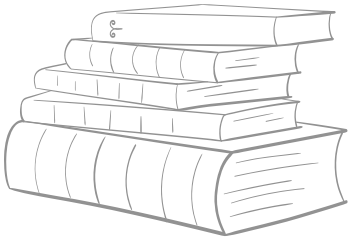
Plant name learning log

Botanical name	Common name	Notes

(Print more copies if you need. You could use the above symbols to label parts of the names)

Want to geek out some more?

Do you need to know what every plant name means? Not at all. But is it fun to look up plant names and deepen your understanding? Absolutely! An online search will bring up the answers. But if you're a bookworm like me, you may like looking up plant names the old fashioned way.



My personal recommendations for books on this topic

Johnson, A.T. and Smith, H.A. (1931) *Plant Names Simplified*

A fantastic little 120-page book packed full of plant names, describing pronunciation (but remember, that doesn't really matter), derivation and meaning. I've had my copy for 20 years and this is the first gardening book I ever bought.

Stearn, William T. (1966) *Botanical Latin* (New Edition)

Much more comprehensive than the above, this book is over 500 pages long and gets into the nitty gritty of botanical Latin on a level deeper than the average home gardening enthusiast really needs. In fact, there's more in here than most professionals need. But if you want to get serious about Latin plant names, this is the book for you.

Harrison, Lorraine (2012) *RHS Latin for Gardeners: Over 3,000 Plant Names Explained and Explored*

A good middle-ground for gardeners with a keen interest in learning more about botanical plant names. It's a nicely presented book in a hard cover that you can keep handy and come back to time and again.

Tips for looking up plant names online

The internet is rich with brilliant plant information, but also plenty of errors and inaccuracies. So when you're searching for botanical names, it helps to know which are the most reliable sources, and how to cross-check information.

If you know the botanical name:

- Search the botanical name directly (on Google, RHS or Wikipedia)
- Prioritise reliable sources:
  - RHS: best for gardening advice (conditions, care, cultivation)
  - Wikipedia: helpful for understanding where a plant grows in the wild and information relating to the plant family
- Using both sources together gives you a clear understanding of the plant
- Be mindful names may be written incorrectly on some other sites

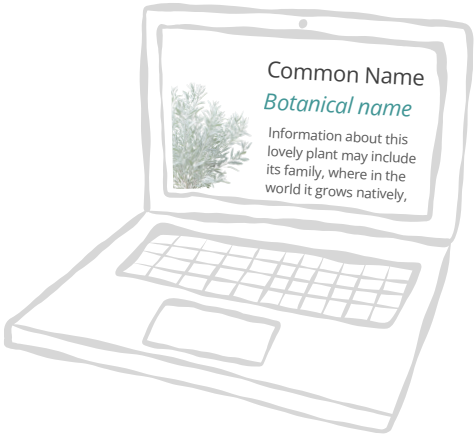
If you don't know the botanical name:

- Start by searching the common name (on Google, RHS or Wikipedia)
- Remember common names can refer to multiple plants
- When you think you've found the plant, check the photos closely
- Once you find a likely match, search the botanical name shown to cross-check
- If it looks right, you've likely found the correct botanical name
- From there, use the botanical name to explore:
  - what the plant is related to
  - what that might tell you about its needs

My preferred online sources for plant info

https://www.rhs.org.uk/plants/

https://en.wikipedia.org/



Join a community that cares

As gardeners, we have a real opportunity to make a positive difference for nature. But trying to heal the world (or your patch of it) on your own can feel a bit lonely. That's why my wife Amy and I started **Restorative Gardeners**.

We're an online community for anybody who feels compelled to use their garden to mend what matters, and who'd appreciate **horticultural mentoring** plus the **support and camaraderie** of others who are working towards the same goals.

We'd love to welcome you

Whether you're discovering the joys of gardening for the first time or are a seasoned gardener, you'll feel right at home in this kind, friendly, judgement-free community. All you need is an enthusiasm for helping nature and an interest in learning more about how to turn your garden into a rich, thriving habitat.

restorativegardeners.com

The video-based course that accompanies this workbook lives on the Restorative Gardeners website, and from there you're welcome to have a peek around to get an idea of what you can enjoy if you decide to join the community.

restorative gardeners

Find out more:

Now it's over to you.

I hope this short course has helped you feel more confident with botanical names and that you're feeling excited about taking this knowledge forward. Remember you can come back to this free course anytime you want a refresher. If you previously felt like botanical Latin was the reserve of "other" or "proper" gardeners, I really hope to have changed your mind on that sadly common misconception. Botanical Latin belongs to everybody. This naming system was invented to help us *all* to understand and describe plants with more clarity. Now you have a good understanding of this system, you can use it as a solid foundation for growing your plant knowledge in a way that helps you to recognise (or know how to look up) the relationships between plants. There are over 350,000 formally named species of plant in the world; more than anybody can learn in a lifetime. You now have the key to make sense of and derive meaning from any botanical plant name you come across. This is where the fun *really* starts! So stay curious, enjoy your quest, and hopefully our paths will cross again soon.

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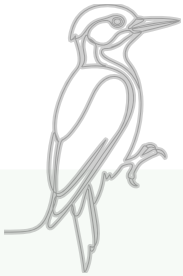

"The final chapter is ours to write. We know what we need to do. What happens next is up to us."

- Sir David Attenborough